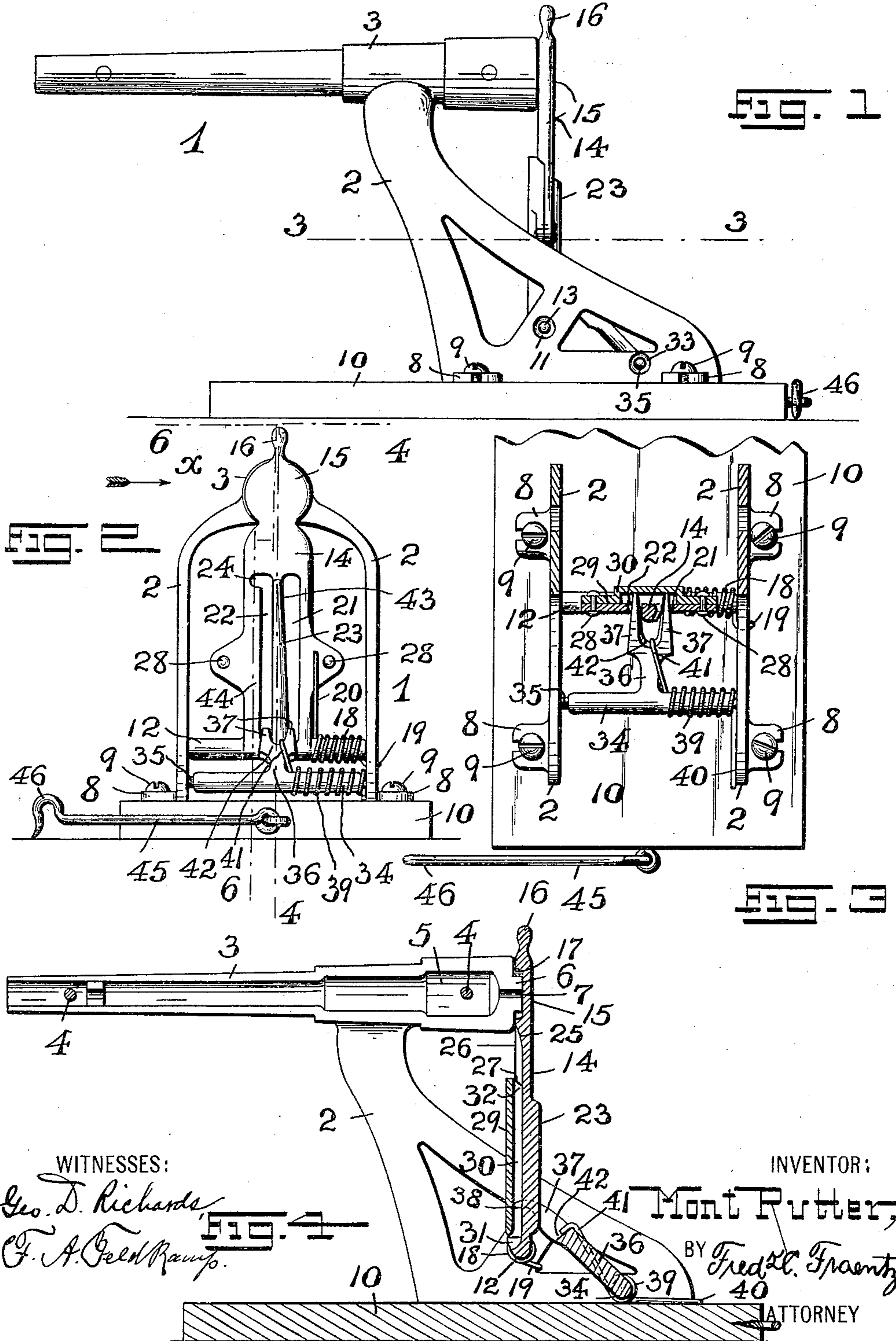


No. 819,928.

PATENTED MAY 8, 1906.

M. RUTTER.
DETONATING TOY.
APPLICATION FILED MAR. 18, 1904.

2 SHEETS—SHEET 1.



WITNESSES:
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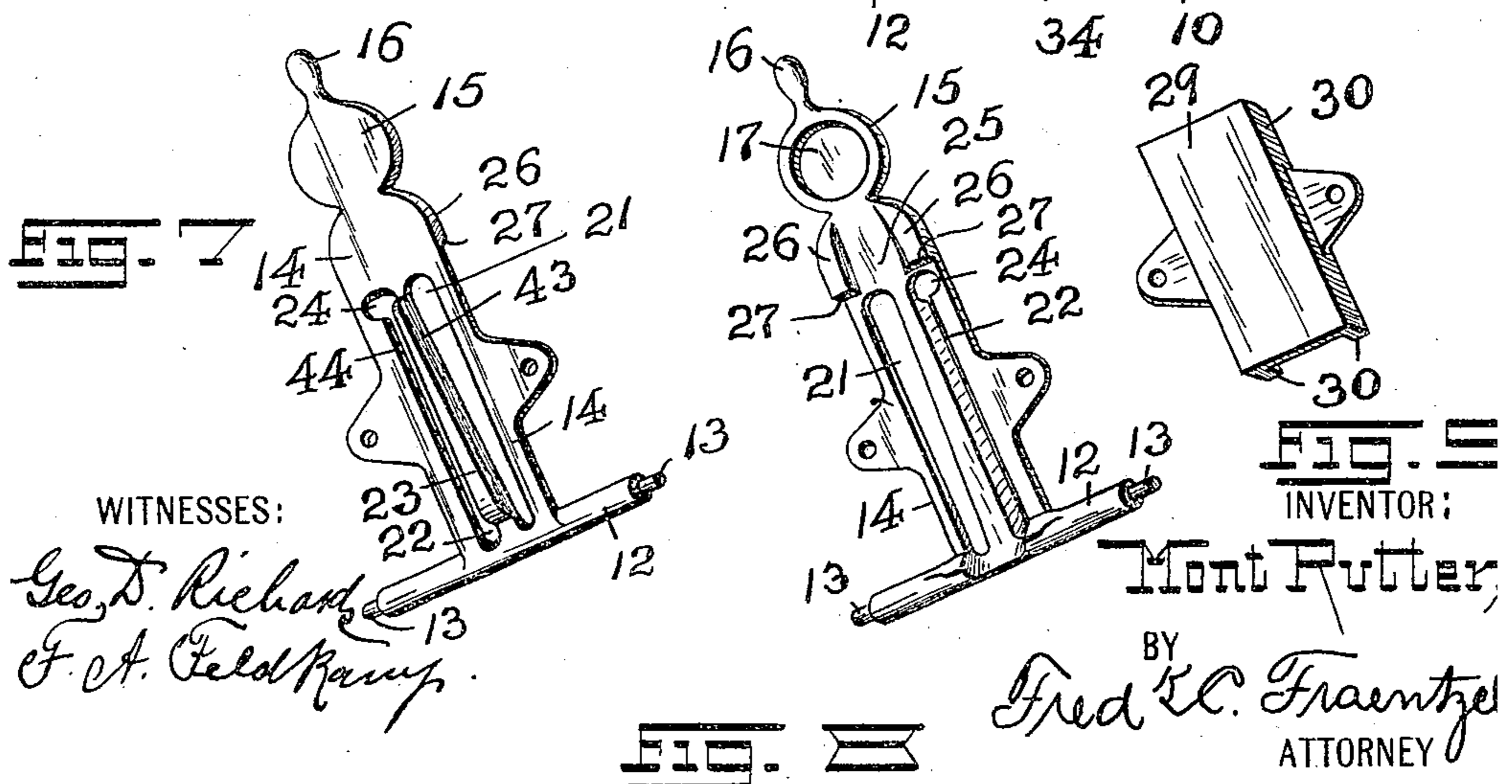
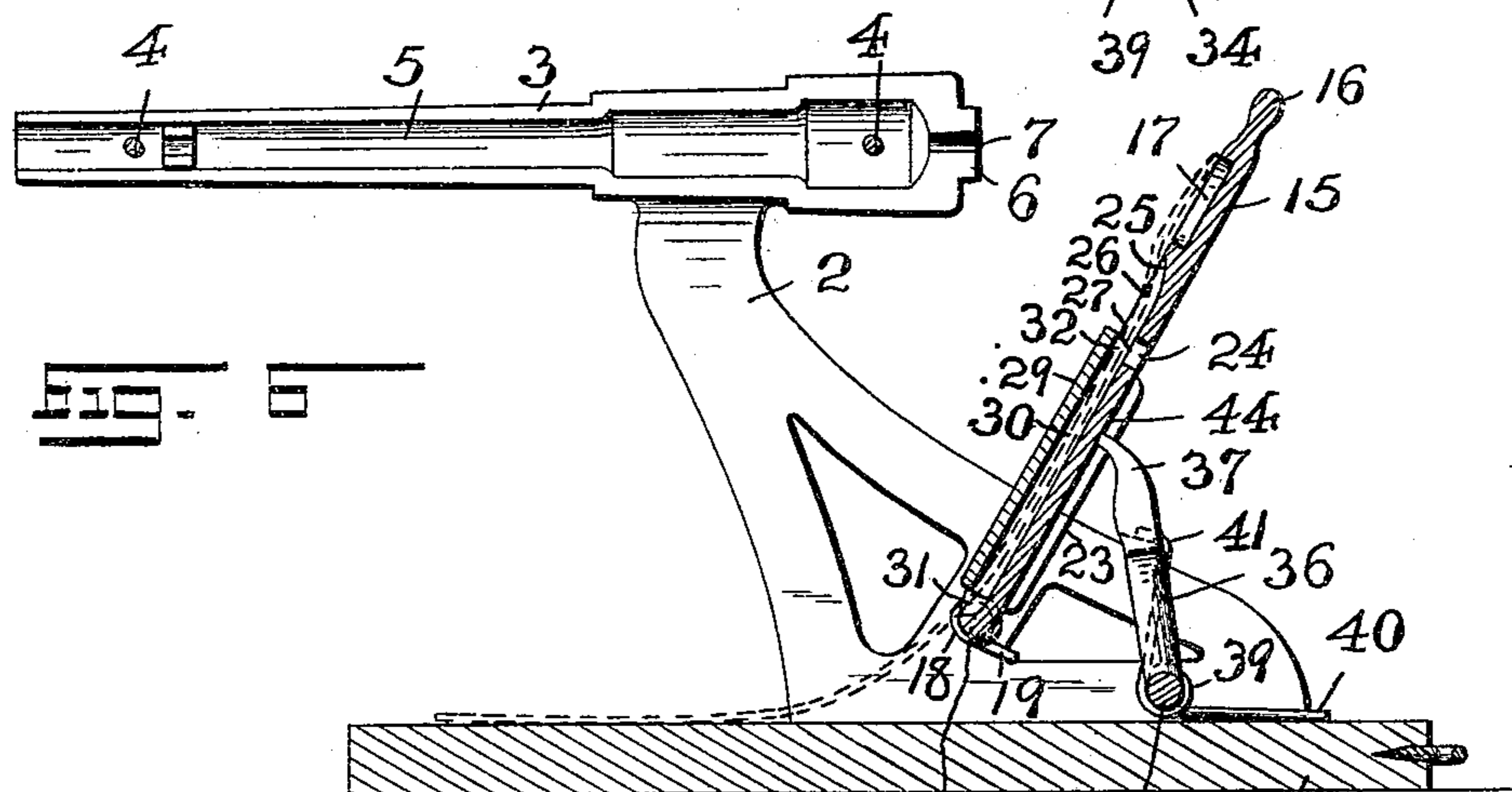
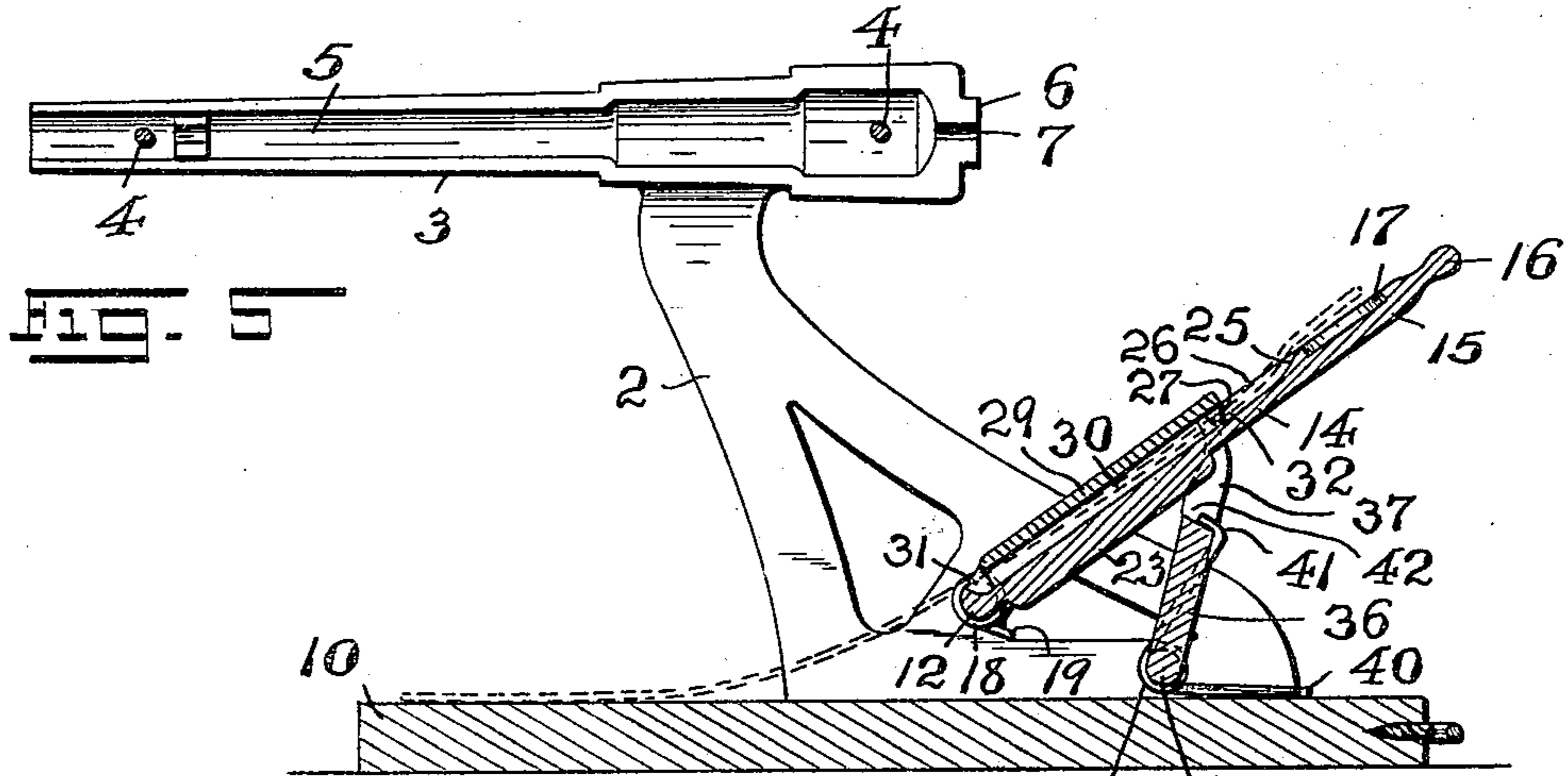
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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

MONT RUTTER, OF NEWARK, NEW JERSEY.

DETONATING TOY.

No. 819,928.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed March 18, 1904. Serial No. 198,732.

To all whom it may concern:

Be it known that I, MONT RUTTER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Detonating Toys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention has reference to improvements in detonating toys; and the invention relates more particularly to a novel construction of toy cannon or gun for the firing or exploding of fulminates arranged in a strip of paper, the device comprising, with a cannon and its firing-anvil, a hammer or exploding-lever provided in its body with a fulminate-tape guide or passage way into which the end portion of a fulminate-tape is inserted and intermittently forced, by means of a suitable feeding means, with every stroke through the said guide or passage way of the hammer or exploding-lever, so as to bring a fulminate directly in front of the exploding-seat of the hammer and by forcible contact with the anvil upon the return stroke of the said hammer or lever exploding the fulminate with a loud report.

The present invention has for its principal object to provide a rapid-fire toy gun or repeating cannon having an oscillating hammer or exploding-lever provided with a tape guide or passage way forming directly a part of the said hammer or lever and means for feeding the fulminate-tape through the guide or passage way in the body of the hammer, whereby the tape is intermittently fed between the anvil of the gun and the exploding-seat of the hammer with a view of producing a rapid succession of explosions and loud detonations.

A further object of this invention is to provide a simply-constructed and cheaply-made detonating toy combining in one piece a hammer and a tape feeding or conducting chute, whereby an independently-arranged tape-conducting chute is dispensed with, a tape-feeding device acting in conjunction with the movements of the hammer to push the tape through the guide or passage way in the body of the said hammer, and to provide a feeding

device, preferably in the form of a fork or double-pronged lever or arm, which engages the tape at or near its marginal edges and does not come in contact with the fulminates embedded in the tape, thereby avoiding any premature explosions of the fulminate.

A further object of this invention is to provide, in connection with an oscillating hammer or exploding-lever of a toy cannon, a means for engagement with the said hammer or lever to hold the same in its lowered position for the insertion of the end portion of the fulminate-tape in the guide or passage way of the said hammer or which may also be used for various other purposes, as will hereinafter appear.

Other objects of this invention not at this time mentioned will be apparent from the following specification.

The invention consists in the novel detonating toy hereinafter set forth; and, furthermore, this invention consists in the various arrangements and combinations of devices and their parts, as well as in the details of the construction thereof, all of which will be fully described in the following specification and then finally embodied in the clauses of the claim, which are appended to and form an essential part of this specification.

The invention is clearly illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a detonating toy or cannon embodying the principles of my present invention. Fig. 2 is a rear end view of the same, and Fig. 3 is a horizontal section taken on line 3 3 in said Fig. 1. Fig. 4 is a central longitudinal section taken on line 4 4 in Fig. 2, illustrating the parts in their normal initial positions; and Fig. 5 is a similar sectional representation of the same parts, but illustrating the hammer or exploding-lever in its actuated or downwardly-pulled position, with the feeding means in the act of forcing the fulminate-tape through the passage-way in the hammer, the fulminate-tape being indicated in dotted outline. Fig. 6 is a longitudinal vertical section taken on line 6 6 in said Fig. 2, illustrating the position or relation of the double-pronged feeding arm or lever to the hammer or exploding-lever upon the return stroke of the latter to present the fulminate to the anvil and there explode the same. Figs. 7, 8, and 9 are perspective views of the parts of the combined hammer and tape-guide.

Similar characters of reference are em-

ployed in the above-described views to indicate corresponding parts.

In the said drawings the reference character 1 indicates the complete detonating toy, the same being made, preferably, in the form of a cannon and comprising a suitable frame or carriage 2 and a cannon or gun portion 3, both of which are integrally formed and produce two complete half-sections, as illustrated. These longitudinally-separated sections of the cannon or gun portion when placed against each other are secured in such positions by means of suitably-disposed connecting pins or rivets 4, and in this manner the cannon or gun portion is provided with a bore 5. Each section is also formed with a rearwardly-extending portion providing an anvil 6, having a fire-hole 7.

The frame or carriage sections 2 are usually provided with suitable holding lugs, as 8, and screws 9 or other suitable fastening means for securing the said frame upon a base 10, substantially as illustrated.

Pivotally arranged in perforations 11 in the frame or carriage sections 2, forming bearings, are suitable journals or ends 13 of a spindle 12, the said spindle being provided with an upwardly-extending arm or plate-like member 14, which I shall hereinafter term the "hammer" or "exploding-lever." This hammer or exploding-lever is made with a disk-shaped part or hammer-head 15 and a finger-piece 16. In the face of the said disk-shaped portion or hammer-head 15 toward the anvil 6 of the cannon or gun portion there may be a depression or chamber 17, forming a seat for the fulminate as the tape is fed into and through the said hammer or lever 14 in the manner to be presently described. A coiled spring 18 is arranged upon a portion of the said spindle 12, the coils of the said spring terminating at one end in an arm or end portion 19 in contact with a portion of one of the frame or carriage sections and the opposite end of the said coils terminating in an arm 20, which rests against a portion of the said hammer or lever 14 and causes the said arm or lever in its normal initial position to stand in the manner indicated in Figs. 1, 2, and 4, with the anvil resting directly within and in contact with the inner surface of the recess or chamber 17.

From an inspection of the several figures of the drawings it will be seen that the said hammer or lever 14 is made with a pair of elongated openings 21 and 22, extending, preferably, from a point near the spindle 12 to a point near the disk-shaped portion or hammer-head 15, the said openings 21 and 22 being separated by a centrally-arranged rib 23, the said rib projecting beyond the outer face of the main body of said hammer or lever 14, as illustrated in the figures of the drawings, to provide a guide for the purposes hereinafter set forth. Referring now to Figs.

2, 7, and 8 it will be seen that the said rib 23 is made at one side with a tapering marginal surface, whereby the upper portion of the said rib is narrowest at the top and widest at the lower end, the opening 21 being wider across its upper portion than at its lower portion, as clearly shown. The said opening 22 is made at or near its upper end with a laterally-extending open or cut-away part 24. Upon the inner surface the said body of the hammer or lever 14 is made directly beneath the hammer-head 15 with a tapering surface 25 and a pair of guide projections 26, each provided with an offset 27. Suitably secured against the inner face of the body of said arm or lever 14 by means of rivets 28 or other fastening devices is a plate 29, having a pair of ribs 30, forming a suitable box and the parts being arranged in such a manner that a combined hammer and tape-receiving guide will be provided. It will be seen from an inspection of Figs. 4, 5, and 6 that this guide is made with an open bottom 31 and an open top 32, located in close proximity to the tapering surface 25, whereby the fulminate-tape when fed into and through the guide will have its upper end portion forced against the said tapering surface 25 with its fulminate located directly in front of the depression or chamber 17 in the hammer-head.

Having thus described the general arrangement and construction of the combined hammer and tape guide, I will now describe one arrangement and construction of feed device for intermittently forcing the fulminate-tape through the guide of the hammer. Pivotally arranged in perforations 33, forming bearings in the frame or cannon sections 2, are the journals or ends 35 of a spindle 34, the said spindle being provided with an upwardly extending arm 36, having a pair of prongs or fingers 37, preferably provided with curved push-pieces or end portions 38. A coiled spring 39 is arranged upon a portion of the said spindle 34, the coils of the said spring terminating at one end in an arm or end portion 40 in contact with a portion of the base 10 and the opposite end of the said coils terminating in an arm 41, which rests against the forked arm 36 and preferably in the crotch 42 of its prongs or fingers 37, as clearly illustrated in Figs. 2, 3, and 4 of the drawings. The purpose of this spring is that the end portions of the fingers or prongs 37 are forced into the respective elongated openings 21 and 22 of the hammer or lever 14 with the ends 38 of the said fingers resting upon the fulminate-tape when the latter has been inserted in the guide of the hammer. The result will be that the hammer or lever 14 when pulled in a downward direction against the pivotal or oscillatory motion of the spring-actuated and forked arm 36 the prongs or fingers of the said arm will bite or grip the fulminate-tape and push it forward in and

through the guide in the hammer, as will be clearly evident, and bring the cap in its firing position in front of the chamber or depression 17. At the same time the pivotal arrangement of the journals 35 of the spindle 34 in the perforations 33 is such that the spring-arm 41 produces a lateral movement of said spindle in its bearings, causing the one finger or prong to move along the inclined or tapering surface 43 of the rib 23 until the arm or lever 14 has been lowered its full extent. (Indicated in Fig. 5.) Now the free end 38 of the finger 37 of the arm 36 is located in the open or cut-away part 24 of the opening 22, and when the arm or lever 14 is released by the operator to explode the fulminate against the anvil 6 the result will be that the end portion of the said finger or prong 37 will ride upon the outer face portion 44 alongside of the opening 22, as clearly indicated in Fig. 6 of the drawings, and away from engagement with the fulminate-tape until at the time of the explosion of the fulminate, when the arm or lever 14 stands in the position indicated in Figs. 1, 2, and 4 and the wide portion of the rib 23 has again caused the free ends of the fingers or prongs 37 to drop into the openings 21 and 22 in operative contact with the fulminate-tape to move the next fulminate in front of the hammer-head 15 when the hammer or lever is again lowered. It will thus be seen that all the parts cooperate to effectively move the fulminate-tape forward when the hammer is lowered and the fulminate or cap is exploded without effect upon the position of the tape during the return stroke of the hammer. That the hammer or exploding-lever may be retained in its lower position for various purposes, a holding means, preferably in the form of a rod, bar, or arm 45, may be pivotally connected with the base 10, as shown in Figs. 1, 2, and 3 of the drawings, the same being provided with a hook-shaped end 46, which can be brought in holding engagement with a portion of the said lever or arm 14 when in its lowered position, as will be clearly understood. Of course it will be evident that any other holding means may be employed for this purpose or such means may be entirely dispensed with, if desired.

I am aware that changes may be made in the general arrangements and combinations of the devices and their parts, as well as in the details of the construction of the same without departing from the scope of my present invention. Hence I do not limit my invention to the exact arrangements and combinations of the devices and their parts as described in the foregoing specification and as illustrated in the accompanying drawings, nor do I confine myself to the exact details of the said parts.

Having thus described my invention, what I claim is—

65 1. In a detonating toy, the combination,

with a cannon and its frame, of a hammer and a fulminate-tape guide forming an integral part of the hammer, substantially as and for the purposes set forth.

2. In a detonating toy, the combination, 70 with a cannon and its frame, of a hammer and a fulminate-tape guide forming an integral part of the hammer, and means arranged to extend into said guide and feed said tape through the said guide, substantially as and 75 for the purposes set forth.

3. In a detonating toy, the combination, with a cannon and its frame, of a hammer and a fulminate-tape guide forming an integral part of the hammer, and means arranged 80 to extend into said guide and feed said tape through the said guide, a fulminate-receiving seat connected with said hammer, and a rearwardly-extending anvil on said cannon against which the fulminate is forced and ex- 85 ploded, substantially as and for the purposes set forth.

4. In a detonating toy, the combination, with a cannon and its frame, of a spring-actuated hammer and a fulminate-tape guide 90 forming an integral part of the hammer, substantially as and for the purposes set forth.

5. In a detonating toy, the combination, with a cannon and its frame, of a spring-actuated hammer and a fulminate-tape guide 95 forming an integral part of the hammer, and a spring-controlled means arranged to extend into said guide and feed said tape through the said guide, substantially as and for the purposes set forth. 100

6. In a detonating toy, the combination, with a cannon and its frame, of a spring-actuated hammer and a fulminate-tape guide forming an integral part of the hammer, and a spring-controlled means arranged to extend 105 into said guide and force said tape through the said guide, a fulminate-receiving seat connected with said hammer, and a rearwardly-extending anvil on said cannon against which the fulminate is forced and ex- 110 ploded, substantially as and for the purposes set forth.

7. In a detonating toy, the combination, with a cannon and its frame, of a hammer, a fulminate-tape guide, and a feeding device, 115 comprising a forked or pronged arm having its prongs in engagement with and on opposite sides of the row of fulminates to straddle said fulminates, substantially as and for the purposes set forth. 120

8. In a detonating toy, the combination, with a cannon and its frame, of a hammer, a fulminate-tape guide, and a feeding device, comprising a forked or pronged arm, and a spring for forcing the prongs in engagement 125 with and on opposite sides of the row of fulminates to straddle said fulminates, substantially as and for the purposes set forth.

9. In a detonating toy, the combination, with a cannon and its frame, of a hammer 130

and a fulminate-tape guide forming an integral part of the hammer, and a feeding device extending into said guide, comprising a forked or pronged arm having its prongs in engagement with and on opposite sides of the row of fulminates to straddle said fulminates, substantially as and for the purposes set forth.

10. In a detonating toy, the combination, with a cannon and its frame, of a hammer and a fulminate-tape guide forming an integral part of the hammer, and a feeding device extending into said guide, comprising a forked or pronged arm, and a spring for forcing the prongs in engagement with and on opposite sides of the row of fulminates to straddle said fulminates, substantially as and for the purposes set forth.

11. In a detonating toy, the combination, with a cannon and its frame, of a hammer provided with a pair of elongated openings and a dividing-rib, a box arranged upon one side of the said hammer, forming with the body of said hammer a fulminate-tape guide, and a tape-feeding device comprising a forked or pronged arm having its prongs extending into the elongated openings of the hammer in engagement with and on opposite sides of the row of fulminates to straddle said fulminates, substantially as and for the purposes set forth.

12. In a detonating toy, the combination, with a cannon and its frame, of a hammer provided with a pair of elongated openings and a dividing-rib, a box arranged upon one side of said hammer, forming with the body of said hammer a fulminate-tape guide, and a tape-feeding device, comprising a forked or pronged arm having its prongs extending into the elongated openings of the hammer in engagement with and on opposite sides of the row of fulminates to straddle said fulminates, when the hammer is lowered, and means for withdrawing said prongs from within the said elongated openings and from contact with the tape when the hammer is raised, substantially as and for the purposes set forth.

13. In a detonating toy, the combination, with a cannon and its frame, of a hammer provided with a pair of elongated openings, one of said openings being of greater width at its upper part than at its lower portion and the other opening being formed with a laterally-extending open part, and a tapering rib between the said openings, a box arranged upon one side of said hammer, and a tape-feeding device comprising a forked or pronged arm having its prongs extending into the elongated openings of the hammer in engagement with and on opposite sides of the row of fulminates to straddle said fulminates when the hammer is lowered, and means for forcing one prong of the feeding device into said

laterally-extending open part to withdraw the prongs from within the said elongated openings and from contact with the tape, substantially as and for the purposes set forth.

14. In a detonating toy, the combination, with a cannon and its frame, of a hammer provided with a pair of elongated openings, one of said openings being of greater width at its upper part than at its lower portion and the other opening being formed with a laterally-extending open part, and a tapering rib between the said openings, a box arranged upon one side of the said hammer, and a tape-feeding device comprising a forked or pronged arm having its prongs extending into the elongated openings of the hammer in engagement with and on opposite sides of a row of fulminates to straddle said fulminates when the hammer is lowered, and a spring connected with the said forked or pronged arm for producing a lateral movement of the same and forcing the one prong into said laterally-extending open part to withdraw the prongs from contact with the tape, substantially as and for the purposes set forth.

15. In a detonating toy, the combination, with a cannon and its frame, of a hammer and a fulminate-tape guide within the said hammer, a double-pronged feeding device, means for forcing the prongs of the said feeding device against the tape and on opposite sides of the row of fulminates to straddle the fulminates, and means for withdrawing said feeding device from engagement with the tape, substantially as and for the purpose set forth.

16. In a detonating toy, the combination, with a cannon and its frame, of a hammer and a fulminate-tape guide within said hammer, the said hammer being provided with a pair of elongated openings, a double-pronged feeding device, and a spring for forcing the ends of said prongs into said elongated openings and in engagement with the tape and on opposite sides of the row of fulminates to straddle the fulminates, and means for withdrawing said feeding device from engagement with the tape, substantially as and for the purposes set forth.

17. In a detonating toy, the combination, with a cannon and its frame, of a hammer and a fulminate-tape guide within said hammer, the said hammer being provided with a pair of elongated openings, a double-pronged feeding device, and a spring for forcing the ends of said prongs into said elongated openings and in engagement with the tape and on opposite sides of the row of fulminates to straddle the fulminates, and means for withdrawing said feeding device from engagement with the tape, and a tapering rib for producing a lateral movement of said pronged feeding device and bringing its prongs directly

over said elongated openings, substantially as and for the purposes set forth.

18. In a detonating toy having an anvil and a hammer pivoted below said anvil, of a fulminate-tape guide, and a double-pronged feeding-arm for engagement with the tape in said guide on opposite sides of the row of fulminates in the said tape, substantially as and for the purposes set forth.

19. In a detonating toy having an anvil and a hammer pivoted below said anvil, of a fulminate-tape guide and a double-pronged feeding-arm pivoted in front of said hammer engaging with the tape in said guide on opposite sides of the row of fulminates in said tape, substantially as and for the purposes set forth.

20. In a detonating toy, the combination, of a pair of frame-sections, a cannon supported on said frame-sections, a hammer having a hollow portion forming a tape-guide, and a pivoted tape-feeding finger independent of said hammer and extending into the said

tape-guide, substantially as and for the purposes set forth.

21. In a detonating toy, the combination, of a pair of frame-sections, a cannon supported on said frame-sections, a pivoted and spring-actuated hammer having a hollow portion forming a tape-guide, and a pivoted and spring-actuated finger independent of said hammer and extending into said tape-guide, substantially as and for the purposes set forth.

22. In a detonating toy, a pivoted hammer having a hollow portion forming a tape-guide, and a tape-feeding finger in slidable engagement with said hammer, substantially as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 11th day of March, 1904.

MONT RUTTER.

Witnesses:

FREDK. C. FRAENTZEL,
CHAS. F. PAULUS.